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WATER SUPPLY OUTLOOK FOR WASHINGTON



U. S. DEPARTMENT of AGRICULTURE * SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SURVEYOR ENROUTE TO THE MT. BALDY ARIZONA SNOW COURSE

SCS PHOTO AZ-5460

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 841 38
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

WATER SUPPLY OUTLOOK FOR WASHINGTON

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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In Cooperation with

JOHN A. BIGGS

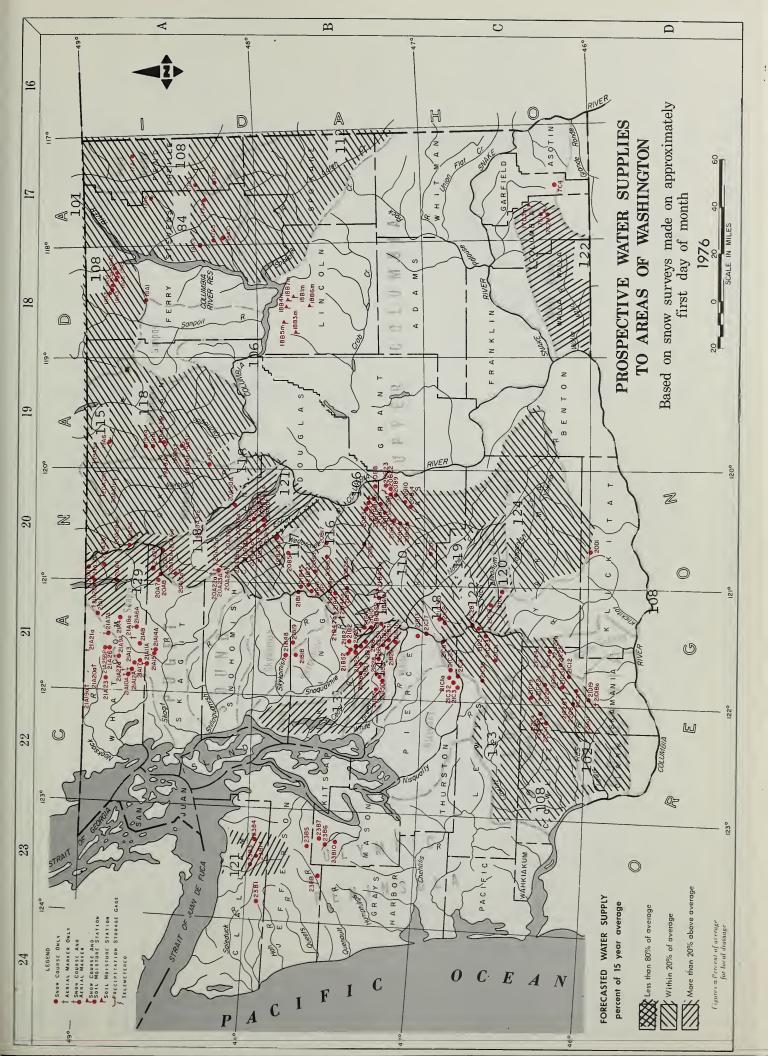
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DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Report prepared by

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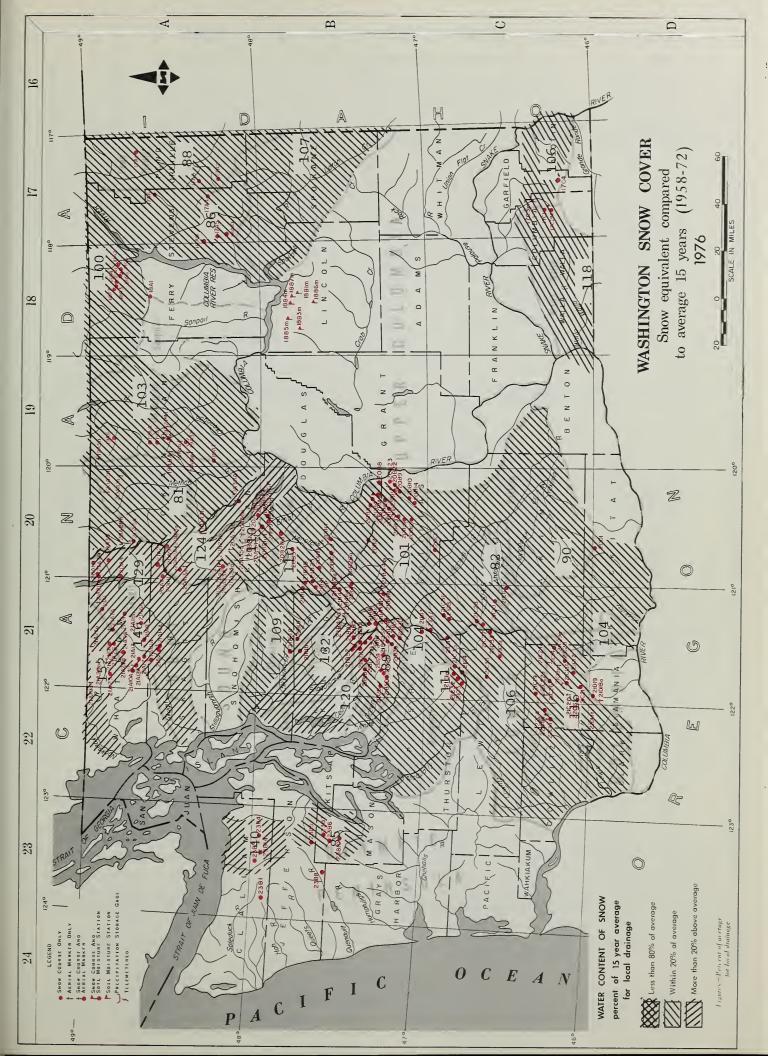
SOIL CONSERVATION SERVICE 360 U.S. COURTHOUSE SPOKANE, WASHINGTON 99201





INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

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NUMBER SEC. TWP. RANGE ELEV	Crab Creek	Satus Pass 2001 21 6N 17F 4030 White Salmon River Cultus Creek 21C12 35 7N 8E 4000 Blue Lake 21C22a 19 9N 8E 4800 Sob's Trail 21C21 25 BN 7E 2200 Calamity Ridge 2201a 8 5N 5E 2500 Council Pass 24 9N 9E 4200
NAME	Calville River 1746 19 56N 42E 1849 34 32N 38E 1841 19 56N 35E Okanogan River 1 1943a 2 36N 24E 1943a 19 56N 24E 1943a 19 58N 26E 2042a 19 57N 24E 2042a 19 57N 24E 1941a 19 56N 25E 1941a 19 56N 25E 1941a 19 56N 25E 2042a 19 57N 26E 2042a 19 57N 16E 2042a 19 54N 16E 2042a 19 54N 16E 2042a 19 54N 16E 2042a 19 34N 16E 2042a 19 34N 16E 2043a 3 31N 16E 2043a 3 3 31N 16E 2043a 3 3 3 1N 16E 2043a 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	chee River 20821a 10 28N 18E 21823 7 26N 15E 21841Sp 13 26N 14E 2081 3 22N 17E 2081 4 25N 16E 2181 14 26N 16E



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NAME NIMBER OF TWO DANCE FIFT	NAME OF THE DAMES	NITE STANDS OFF STANDED OFF STANDS	NAME OF THE PARTY
OFFER COLUMBIA DRAINAGE	Wenatchee River (continu	Divide Monday Lewis Kiver (confinued)	Skagif Kiver
and Oreille River	Colockim Greek	Grand Meadow 21C25 28 8N 9E	ss 1141 9 39N
Bunchgrass Meadow 17AI 24 37N 44E 5000	Upper 20822 11 20N 20E	Lone Pine Shelter 21C26 8 9N 7E Marble Mountain 22C5a 24 8N 5E	26 40N 12E
17A3 30 33N 43E	1 20N		r, il 20Al 14
Kettle River	2083 12 21N 19E	Plains of Abraham 22Cla 35 QN 5F	dow New 20A38 8 40N 161
18A2 56 59N 36E 18A3 28 39N 35E	Scout-A-Vista 2084 18 21N 20E 3400	Smith Creek Road 22C4 29 9N 6E	29 36N 14E
18A8 5 38N 36E		Spencer Meadow 21C20a 16 8N 7E Surprise Lakes 21C13A 14 7N 8E	ake 20A7 19 40N 14E
Goat Creek 18A4 26 39N 35E 3595 Snow Caps Creek 18A5 3 38N 36E 2150	Jump-Off 20B8 34 21N 20E 4450	Table Mountain 21C24a 20 9N 9E	35N
5 38N 36E	20B7PM 30 21N 20E	limbered reak 21018a 30 6N 6E	
100 John 20 350 351	Crob Creek	Cowlitz River	Baker River
17A6 19 56N 42E	nz 1881m 32 27N 34E	Cayuse Pass 21C6 15 16N 10E	1 37N 7E 8 36N 8E
18A9 34 32N 38E	28 27N 31E 21 27N 33E	Ohanapecosh 2103 28 15N 10E	21A7A 19 39N 11E
Chewelah 1784 11 52N 41E 4925 Srranger Mountain 1785 26 31N 38E 4990	1s 18B5m 17 27N 32E	Packwood Lake 21C31 21 13N 10E	31 37N 9E
6 29N 38L	18B/m 24 2/N e 18B6m 24 25N		Marten Lake 21A9A 23 38N 8E 3600
	Yakima River	Willame Creek 21C30 3 13N 8E	21A18a 27 38N 10E 21A12A 20 37N 8E
Sherman Creek Pass 18A1 19 36N 35E 5350	21C11 24 12N 14E		21A10A 18 37N 8E
Okanogan River	k 2189 35 23N 14E		22 37N 8E
1948a 2 36N	16N 12E		21A15 18 36N 9E
No. 1 19A1 30 37N 24E	2089 25 20N 20E		21A8 25 5/N 9E
sek No. 2 19A4 19 37N 24E	20810 17 19N 20E 21844m 15 20N 14E		Nooksack River 21819a 7 40N 7E
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33 37N 24E	3 12N 13E	Nisqually River	21A23 9-10 38N 7E
19A10a 15 35N 23E	20B11 29 ZIN 19E 20B12 34 ZON 19E	3 15N 8E	Panorama New 21AZ5 1/ 39N 9L 4500 Panorama Snow Pillow 21AZ5SP 17 39N 9E 4300
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Methow River	21B14N 15 20N 14E 21B473 7 23N 13E	Paradise Park (New) 21C35 13 15N 8E 5500	
8 39N 20E	20C1 24 17N 16E	13 13N OE	
20A5A 7 37N 18E	Lake 21C17 6 16N 11E	White River	
Horseshoe Basin 1945a 15 40N 23E 7000 Loun Loun 1947 36 34N 23E 4650	Trail Creek 20814 20 19N 20E 3360	Corral Pass 21813 30 18N 11E 6000	OLYMPIC PENINSULA
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20A25a 3 31N 16E	21B49a 12 23N 13E	Oreen Kiver	
Little Meadows 20A24a 8 31N 16E 5275	1 3N	Charley Creek 21825 27 21N 8E 1200	Morse Creek
20A13a 19 34N 16E	21C27 1 15N 11E	21B42SP 21 21N 9E	Cox Valley 23B14 31 29N 6W 4500
e 20A12A 18 34N 16E		14 20N 8E 12 20N 8E	i
20A16a 3 34N 1/E 20A9 21 35N 17E		21B29 36 20N 10E	2267 36 20N 7W 4500
32 31N 20E		21 20N 8E 5 19N 11E	M/ NG5 06
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Entiat River	LOWER COLUMBIA DRAINAGE	21B10 25 21N	23B7 17 24N SW
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: Meadows 20A33a 28 31N 17E	Spruce Springs 17C4 9 8N 40E 5700	Cedar River	28 25N 5W
ail 20A34a 2 29N 17E	Mill Creek	21B3 10 21N 10E	23B8 25 24N 7W
15 26N 19E	17C3m 2 9N 40E	ardner 21821 30 22N 10E	Soleduck River
20B20	Homestead 17C1 11 9N 40E 4030	Mt. Lindsay 21816 31 22N 9E 2500	Deer Lake 23Bl 14 28N 9W 3900
20A32a 34 30N 18E	200	Washington New 21B52 8 22N 9E	
29N 19E	Klickitat River	21N 9E 21N 10E	
20821a 10 28N	Satus Pass 2001 21 6N 17E 4030	21B20 1 21N 10E	
Wenatchee River			
21823 7 26N 15E	White Salmon River	Snoqualmie River	LE GEND
(New) 21841SP 13 26N 14E 2082 35 22N 17E		Alpine Meadow 21B48 31 27N 9E 3500	ALMBERING SYSTEM FARMPLE 2147 SNOW COURSE ONLY 21473 AFFIRM MARKAR DNLY
4 25N 17E 33 •27N 17E	Lewis River	21B18 26 26N 9E	21A7M SNOW CLURSE AND ACRIAL MARKER 21A7M SNOW CLURSE AND SUL MOISTURE STATION
	Bob's Trail 21021 25 8N 7E 2200	Skykomish River	21A7 BY SHOW CHOUSE JANE PRECIPIATION STORAGE GAGE 21A7 P PRECIPITATION STORAGE GAGE
26N 13E 26N 19E	21C18a 24 9N 9E	Lake Elizabeth 21819 33 26N 10E 2900	21A7SP SNO* PILLON

WATER SUPPLY OUTLOOK

State of Washington March 1, 1976

As the snow season progresses, it appears more and more likely that adequate water supplies will be available from all rivers flowing through the state of Washington. We have a wide range of snow cover, but the resultant forecasts are all for near normal flows. Our snow cover ranges from 19 percent below normal to 52 percent above and the resulting forecasts also range from 16 percent below normal on the Colville River to 45 percent above normal on the Green River below Howard Hanson Dam. The last two weeks in January and the first two weeks in February were very dry and it appeared, when this report was prepared last month, that the water supply could very well deteriorate and serious water shortages * occur. Since the middle of February, well above normal precipitation has occurred and this, together with the snow base that we had as of $_{\star}$ February 1, has given us this excellent snow pack. Another peculiarity * about this snow is the very light densities being measured by the field * crews. In contrast to the heavy densities of February 1, the snow pack $_{\star}$ is now similar to that which you might measure on January 1. In other * words, densities in February were in the high thirties and low forties, , while densities on March 1 were in the high twenties and low thirties. Of Course, subsequent precipitation and weather patterns could still . change our water supply outlook, but with normal conditions, we can * expect good water supplies during the runoff period of 1976.

SNOW COVER

The precipitation of late February has put down above normal amounts of snow during the last two weeks of February and the first of March. The current standing of snow cover ranges from 19 percent below normal on the Methow River to 24 percent above on the Chelan River; this in the Upper Columbia Basin. Along the Lower Columbia, the range is from 10 percent below normal for the Klickitat River to 18 percent above on Mill Creek, a tributary of the Walla Walla River. In the Puget Sound, the snow cover ranges from 11 percent below normal on the Green River to 52 percent above on the Nooksack River. The excellent snows measured last month in the Skagit and Baker Watersheds are even more improved. Only two basins in the Olympic Peninsula are sampled, with the Elwha, measured by only one snow course, indicating a snow pack that is 40 percent above normal. The Skokomish, measured by four snow courses, has a snow cover that is 15 percent below average.

RESERVOIRS

Although the irrigation and power reservoirs in the state are not full, they generally have more water in storage than has been measured for many years. Reservoir management indicates that they are currently making plans, or have already started, to release water from these reservoirs in order to hold the spring runoff. This is done in hopes that uncontrolled spillage will not occur during the runoff season. This task is taken very carefully, as the managers wish to maintain a full reservoir during the spill period and end up with a full reservoir at the end of the snow melt season.

PRECIPITATION

February rainfall, as measured by the National Weather Service, was above normal except in the northcentral portion of the state. Percentages for the Columbia River in Canada are 4 percent. above average; the Pend Oreille-Spokane, 15 percent above; northcentral Washington, 10 percent greater than average; southeastern Washington, 29 percent greater; central Washington, 43 percent above; northwestern slopes of the Cascades, 19 percent greater and southwestern slopes of the Cascades, 20 percent greater. When the February rainfall is integrated in the November through February period, the precipitation in the Columbia Basin in Canada is 6 percent above normal; the Pend Oreille-Spokane, 3 percent below normal; the northeastern portion of the state, 15 percent below average; the southeastern portion, 13 percent below; central Washington has an average that is 28 percent greater than average; the northcentral portion 4 percent below. On the west side, northwestern slopes are 30 percent greater than average and the southwestern slopes 16 percent greater. In the Yakima Basin, the five precipitation stations at the reservoirs, indicate the rainfall to be 27 percent greater than average.

STREAMFLOW

During the month of February, there was a wide range of flows measured and reported by the United States Geological Survey. Lowest streamflows for the month were 28 percent below average for the Spokane River and the Green River below Howard Hanson Dam (these both adjusted for storage). The river that had the greatest outflow during the month was the Okanogan River, measured at Tonasket, 56 percent above average. This is not adjusted and the lowering of Okanogan Lake accounts for this well above normal streamflow. Flow of the Columbia River from Canada, as measured at International Boundary, was 1 percent below average and 6 percent below at The Dalles. Forecasts of streamflow, as previously stated, are for near normal flows. The Columbia River at Birchbank is expected to flow 1 percent above normal during the April-September period and at The Dalles, 8 percent above. The Okanogan River system is expected to have an outflow 15 and 18 percent above normal for the Similkameen at Nighthawk and Okanogan near Tonasket, respectively. The Methow at Pateros should have an April-September flow of 18 percent above normal. The Chelan, with its excellent snow pack, is expected to flow 21 percent greater than average. The Yakima River system is expected to have flows ranging from 10 percent above to 24 percent above for the combined flow of the Yakima near Parker. A marked improvement in forecasts occurred in the Lower Columbia River system, with the Lewis River at Ariel now expected to have an outflow 2 percent above average and the Cowlitz at Castle Rock, 8 percent above. The Dungeness near Sequim, based on one snow course, is now expected to have an outflow 21 percent above normal. The Green River system has the highest forecast, percentagewise. March-September flow of the Green River is now expected to be 45 percent above average, or 560,000 acre feet. Numerical forecasts can be found on the following pages for these and other gaging stations in the state.

STREAMFLOW FORECASTS - MARCH 1976

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1975 are preliminary and subject to revision.

Seasonal Streamflow in Thousands of Acre-Fe									
Basin, Stream	Forecast	ુ	Fore-				15-Yr		
and	Runoff	15-Yr.	cast				Average		
Station	1976	Avg.	period	1975	1974	1973	58-72		
	COLU	JMBIA BASI	<u>IN</u>						
COLUMBIA RIVER SYSTEM									
Columbia River	46800	101	Apr-Sept	41188	54227	34796	46410		
at Birchbank 1/	38500	102	Apr-July	33033	44492	27876	37548		
_	28100	102	Apr-June	22534	31894	20203	27549		
Columbia River	73000	106	Apr-Sept	66512	85139	45849	69020		
at Grand Coulee 1/	62400	107	Apr-July	55890	73671	38193	58368		
_	48400	105	Apr-June	41354	57033	29886	46049		
Columbia River	80000	106	Apr-Sept	74143	96939	49117	75290		
bl Rock Island Dam 1/	67000	104	Apr-July	73212	84480	41200	64181		
_	53000	105	Apr-June	47192	65246	32032	50594		
Columbia River	113000	108	Apr-Sept	109012	139724	65162	104600		
at The Dalles, Or 1/	96000	107	Apr-July	94328	123570	54260	89875		
_	76000	104	Apr-June	73078	99282	43395	73143		
PEND OREILLE RIVER SYSTEM Pend Oreille River									
bl. Box Canyon	17200	108	Apr-Sept	17559	21551	8311	15950		
	15800	108	Apr-July	15872	20103	7614	14677		
	13500	106	Apr-June	12587	16732	6756	12767		
KETTLE RIVER SYSTEM									
Kettle River	2020	108	Apr-Sept	1921	2831	1121	1873		
nr. Laurier	1940	108	Apr-July	1837	2752	1093	1794		
	1740	106	Apr-June	1641	2476	1020	1640		

Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

		Congons	al Streamflo	w in Th	nousands	s of Acr	-A-Foot
Basin, Stream	Forecast	%	Fore-	/W 111 11	io asana.	or ner	15-Yr
and	Runoff	15-Yr.	cast				Average
Station	1976	Avg.	period	1975	1974	1973	58-72
KETTLE RIVER SYSTEM (Cont.)							
Colville River	125	84	Apr-Sept		286	54	148
at Kettle Falls	115	84	Apr-July		269	50	137
	110	86	Apr-June		252	48	128
SPOKANE RIVER SYSTEM*			- 0 1	2000	4001	1140	2002
Spokane River	3350	112	Apr-Sept	3088	4801	1140	2982
at Post Falls, ID $\frac{2}{}$	3200	110	Apr-July	2944	4682 4409	1082 1022	2899 2773
	3000	108	Apr-June	2736	4409	1022	2113
OWN NO CAN DIVIDE ON OWNER							
OKANOGAN RIVER SYSTEM	1740	115	Apr-Sept	1409	2216	736	1516
Similkameen River	1620	113	Apr-July	1315	2092	697	1424
nr. Nighthawk	1430	117	Apr-June	1073	1710	621	1222
	1430	11/	Apr dune	10,5	1,10	001	
Okanogan River	2040	118	Apr-Sept	1584	2757	765	1723
nr. Tonasket	1860	117	Apr-July	1439	2534	707	1582
III. Ioliaskee	1610	119	Apr-June	1178	2029	622	1349
			-				
METHOW RIVER SYSTEM							
Methow River							
nr. Pateros	1220	118	Apr-Sept		1665	512	1031
	1110	116	Apr-July		1555	476	963
	990	119	Apr-June		1268	417	832
CHELAN RIVER SYSTEM				1000	1740	777	1253
Chelan River	1510	121	Apr-Sept	1368	1749	777	1112
at Chelan <u>3</u> /	1350	121	Apr-July	1216	1508 1115	680 544	881
	1090	124	Apr-June	856	1112	244	001
	1060	118	Apr-Sept		1223	541	904
Stehekin River	920	119	Apr-July		996	447	776
at Stehekin	730	122	Apr-June		717	352	600
	730	J. & &			. = .		
Entiat	290	121	Apr-Sept		387	145	239
nr. Ardenvoir	268	122	Apr-July		347	131	220
III. III GOILLOTT	217	121	Apr-June		256	113	180
			_				E.

^{*} Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

^{2/} Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

^{3/} Observed flow corrected for storage in Lake Chelan.

	,	Concent	l Streamflo	or in M	houganda	of 7-	na Bash
and Ctroam	Forecast	seasona %	Fore-	OW III I.	nousanus	OI AC	15-Yr
Basin, Stream and	Runoff	° 15-Yr.	cast				Average
Station	1976	Avg.	period	1975	1974	1973	58-72 ³
Station	1970	Avy.	period	1973	1974	1973	36-72
WENATCHEE RIVER SYSTEM							
Wenatchee River	1540	117	Apr-Sept		1910	790	1312
at Plain	1420	120	Apr-July		1652	709	1187
de riain	1150	120	Apr-June		1188	589	956
Wenatchee River	2080	116	Apr-Sept	2000	2556	1033	1786
at Peshastin	1950	120	Apr-July	1811	2232	938	1629
	1620	122	Apr-June	1332	1632	786	1324
Stemilt Basin	130	94	May-Sept				138*
nr Wenatchee							
YAKIMA RIVER SYSTEM							
Yakima River	156	110	Apr-Sept	169	231	83	142
nr. Martin 4/	142	108	Apr-July	155	214	76	131
-	124	107	Apr-June	128	170	70	116
will be a planta	1060	110	Ann-Cont		1463	555	968
Yakima River	970	111	Apr-Sept Apr-July		1335	489	877
at Cle Elum <u>5</u> /			Apr-June		1067	433	764
	860	113	Apr-Jule		1067	433	704
Yakima River	2150	124	Apr-Sept		3216	582	1730
nr. Parker 6/	2120	125	Apr-July		3092	590	1701
_	1950	123	Apr-June		2601	598	1580
Kachess River	1.38	110	Apr-Sept	141	207	66	125
	127	108	Apr-July	135	193	63	118
nr. Easton <u>7</u> /	114	103	Apr-June	112	156	59	106
	114	107	Apr-ouie	112	130	33	100
Cle Elum River	532	112	Apr-Sept	545	745	285	477
nr. Roslyn 8/	490	112	Apr-July	497	664	255	437
	417	112	Apr-June	392	500	220	372
Bumping River	172	118	Apr-Sept	179	230	74	146
nr. Nile 9/	158	118	Apr-July	163	206	68	134
111. MILE 3/	135	120	Apr-June	119	152	61	112

^{*} Thousands of Miners' inches.

^{4/} Observed flow corrected for storage in Lake Keechelus.

^{5/} Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

^{6/} Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

^{7/} Observed flow corrected for storage in Lake Kachess.

^{8/} Observed flow corrected for storage in Lake Cle Elum.

^{9/} Observed flow corrected for storage in Bumping Lake.

		Seasona	al Streamfl	ow in T	housand	s of Act	re-Feat
Basin, Stream	Forecast	8	Fore-			12	15-Yr
and	Runoff	15-Yr.	cast				Average
Station	1976	Avg.	period	1975	1974	1973	58-72
YAKIMA RIVER SYSTEM (Cont.)							
American River	150	117	Apr-Sept		203	70	128
nr. Nile	140	118	Apr-July		181	65	118
	120	120	Apr-June		137	58	100
Tieton River	300	122	Apr-Sept	297	405	160	247
at Tieton Dam 10/	250	118	Apr-July	252	337	124	211
<u> </u>	200	116	Apr-June	187	255	99	172
			i.pr ouiio	107	233		1/2
Naches River	1060	119	Apr-Sept		1428	442	889
nr. Naches 11/	990	122	Apr-July		1286	385	810
	860	123	Apr-June		1038	336	698
Ahtanum Creek	58	120	Apr-Sept		83	21	48
nr. Tampico <u>12</u> /	53	120	Apr-July		76	18	44
	48	123	Apr-June		64	16	39
			,				
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek							
nr. Walla Walla	33	122	Apr-Sept		57	17	27
	29	121	Apr-July		51	13	24
	26	124	Apr-June		47	11	21
Lewis River	1360	102	Apr-Sept	1196	1951	800	1341
at Ariel 13/	1200	104	Apr-July	1028	1760	666	1151
	1070	104	Apr-June	891	1489	574	1028
Cowlitz River	2380	113	Apr-Sept		3323	1252	2101
Blw. Mayfield Dam	2070	112	Apr-July		2975	1068	1846
	1760	111	Apr-June		2416	904	1578
Cowlitz River	2990	108	Apr-Sept	2652	4128	1676	2773
at Castle Rock 14/	2580	107	Apr-July	2279	3694	1419	2416
<u></u>	2250	108	Apr-June	1817	3029	1212	2083
			- <u>-</u> - <u>-</u>		5025		2000

^{10/} Observed flow corrected for storage in Rimrock Lake.

Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

^{12/} Observed flow of North and South Forks (Combined).

^{13/} Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

^{14/} Observed flow corrected for storage in Mayfield Reservoir.

			al Streamflo	w in T	housands	of Acı	ce-Feet
Basin, Stream	Forecast	%	Fore-				15-Yr
and	Runoff	15-Yr.					Average
Station	1976	Avg.	period	1975	1974	1973	58-72
	OLYMPIC	PENINSU	<u>LA</u>				
DUNGENESS RIVER SYSTEM							
Dungeness River							
nr. Sequim	200	121	- Apr-Sept		205	120	165
	165	120	Apr-July		162	98	137
	125	120	Apr-June		111	74	104
	DIICE	r SOUND			·		
	PUGET	L SOUND					
SKAGIT RIVER SYSTEM Skagit River at Newhalem 15/	3120	129	Mar-Aug	2770	3169	1610	2418
GREEN RIVER SYSTEM Green River blw. Howard Hanson Dam 16	/ 560	145	Mar-Sept		573	210	386
CEDAR RIVER SYSTEM Cedar River nr. Cedar Falls	120	131	Apr-Sept		145	53	91

 $[\]underline{15}/$ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs. $\underline{16}/$ Observed flow corrected for storage in Howard Hanson Dam



COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about March 1, 1976 as percent of the same date in 1975 and 1974 and average of record.

average of record.	No. of		ater Express	ed
Tributary Basin	Courses Average	as 1975	percent of 1974	1958-72 Avg.
		JUMBIA BASIN		
Pend Oreille	14	80	71	88
Kettle	17	82	84	100
Colville	5	58	93	86
Spokane	9	93	70	107
Okanogan	40	82	72	103
Methow	9	74	51	81
Chelan	7	98	90	124
Entiat	10	103	95	110
Wenatchee	9	84	78	110
Yakima	25	77 64	65 6 7	101 82
Ahtanum	2	04	67	62
	LOWER	COLUMBIA		
Asotin Creek	1	94	73	106 118
Mill Creek	3	92	56	
Klickitat	1	56	57	90
White Salmon	2	100 136	74 93	104 116
Lewis	18 10	95	93 75	106
Cowlitz	10	93	/5	100
	PUGET	SOUND		
Nisqually	4	82	72	111
White	2	79	77	104
Green	8	51	94	89
Cedar	6	66	54	120
Snoqualmie	4	96	90	132
Skykomish	3	94	67	109
Skagit	13	101	86	129
Baker	10	122	87	146
Nooksack	4	107	86	152
	OLYMPIC	PENINSULA		
Skokomish	4	82	54	85
Morse Creek	1	127	82	-
Elwha	1	151	92	140
ETWIIA	±	191		

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR		USABLE 1/		Measu	red (March	h)
STREAM	RESERVOIR	CAPACITY	1976	1975	1974	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	130.0	58.9	127.9	162.4
Columbia	Franklin D. Roosevel Lake	t 5232.0	3370.7	4304.9	-1175.4	2843.8
Columbia	Banks Lake	761.8	714.9	706.9	720.3	588.3
Okanogan	Conconully Reservoir	13.0	10.7	11.2	6.4	11.6
Okanogan	Salmon Lake	10.5	9.8	9.2	7.3	7.4
Chelan	Lake Chelan	676.1	463.0	155.1	228.5	234.9
		YAKIMA				
Yakima	Keechelus Lake	157.8	124.1	95.4	99.4	105.5
Kachess	Kachess Lake	239.0	204.0	153.6	107.9	183.6
Cle Elum	Lake Cle Elum	436.9	327.0	267.4	195.7	264.5
Bumping	Bumping Lake	33.7	8.5	2.8	4.7	10.2
Tieton	Rimrock Lake	198.0	148.0	121.6	132.1	128.2
		PUGET SOUN	<u>D</u>			
Skagit	Ross Reservoir	1404.1	1128.6	782.4	1030.4	873.9
Skagit	Diablo Reservoir	90.6	87.5	86.9	86.4	85.0
Skagit	Gorge Reservoir	9.8	8.2	8.8	8.2	

^{1/} Based on Active Storage

^{* 15-}year Average 1958-72

SOIL MOISTURE - MARCH

Drainage Basin			Profile	Inches	Soil M	oisture	Content
and				Total	Inches	as of M	March 1
Station	Number	Elev.	Depth	Capacity	1976	1975	1974
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	3.6	2.0	3.7
Trout Creek	3-M	3600	48	7.3	-	3.2	3.8
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	4.9
Lake Cle Elum	21B14M	2200	48	12.8	-	-	9.3
WALLA WALLA							
Couse	17C3m	3650	48	11.1	Late	9.3	10.3
Helmers	17C2M	4400	48	12.0	Late	10.8	10.1
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	11.4	8.6	11.1

FALL SOIL MOISTURE

Drainage Basin			Profile	Inches	Soil M	loisture	Content
and .				Total	Inches	as of	Oct. 1
Station	Number	Elev.	Depth	Capacity	1975	1974	1973
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	3.2	1.8	2.6
Trout Creek	3-M	3600	48	7.3	3.1	3.0	2.8
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	2.6
Lake Cle Elum	21B14M	2200	48	12.8	-	-	6.1
WALLA WALLA							
Couse	17C3m	3650	48	11.1	7.3	-	5.6
Helmers	17C2M	4400	48	12.0	6.5	-	7.6
WENATCHEE							
Upper Wheeler	20B 7 M	4400	48	12.7	8.6	5.4	6.0

 $\begin{array}{c} \text{PRECIPITATION } \underline{1}/\\ \\ \text{Division Average Observations and Departures} \end{array}$

	FA	LL	WINTER					
Drainage	Sept-Oct	1975 <u>2</u> /	Nov. 1975 -	202. 13,0 2/				
Divisions	Observed	Departure	Observed	Departure				
Columbia in Canada	3.51	+ 0.96	11.85	+ 0.64				
Pend Oreille - Spokane	4.27	- 0.21	15.52	- 0.49				
Northeastern Washington	2.29	- 0.49	8.13	- 1.43				
Southeastern Washington	2.94	- 0.29	9.78	- 1.44				
Central Washington	5.47	+ 0.72	30.93	+ 6.73				
North Central Washington	1.22	- 0.40	5.68	- 0.23				
Northwest Slope Cascades	15.42	+ 2.73	57.85	+13.44				
Southwest Slope Cascades	8.34	- 0.34	41.01	+ 5.53				
Northeastern Washington		- Lower Spokane Kettle Draina	e, Colville, Sanpoi ages.	l and Lower				
Southeastern Washington		- Touchet, Tuca	annon and Palouse D	rainages.				
Central Washington		- Yakima, Wenat	tchee and Chelan Dr	ainages.				
Northwest Slope Cascades		- Puget Sound I	Orainages.					
Southwest Slope Cascades		- Lower Columbi	ia Drainages.					

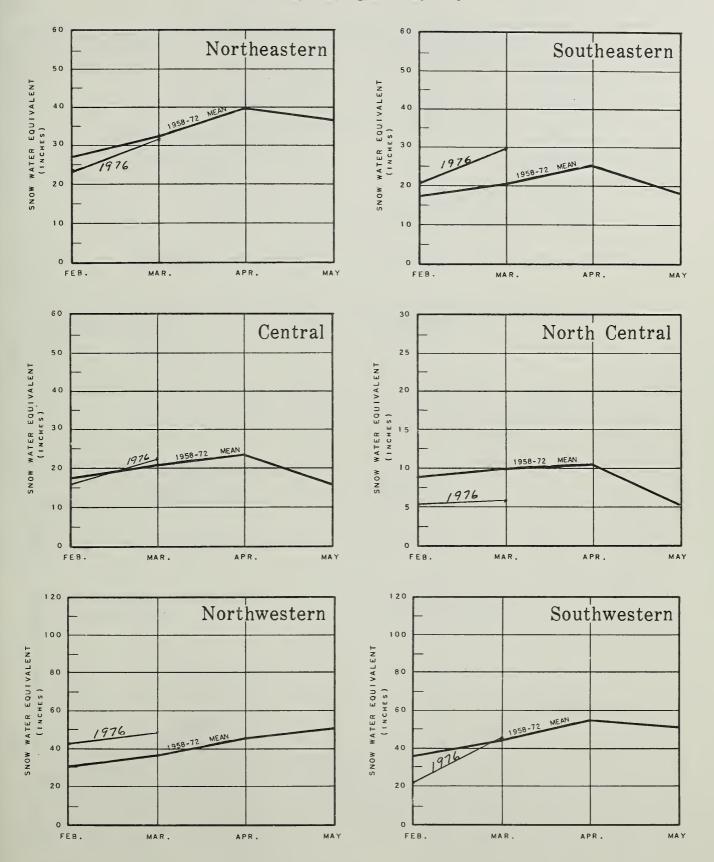
<u>1</u>/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

^{2/ -} Departure from 15-year (1958-72) drainage division average.

WASHINGTON SNOW COVER

1976

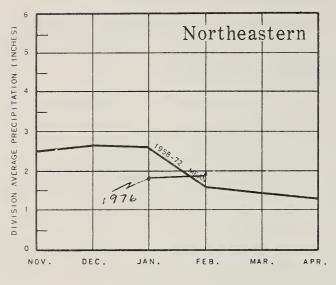
DRAINAGE AREAS

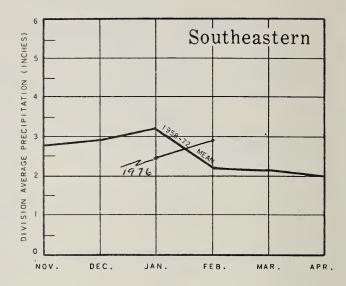


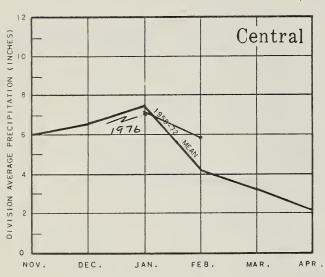
WASHINGTON VALLEY PRECIPITATION

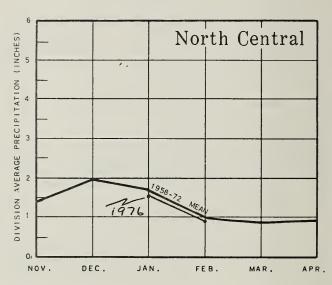
1976

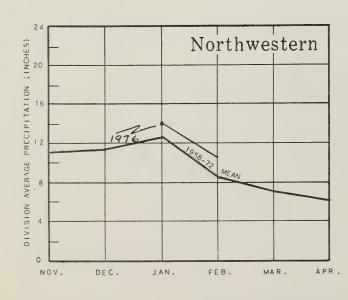
DRAINAGE AREAS

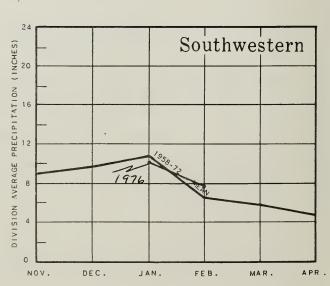


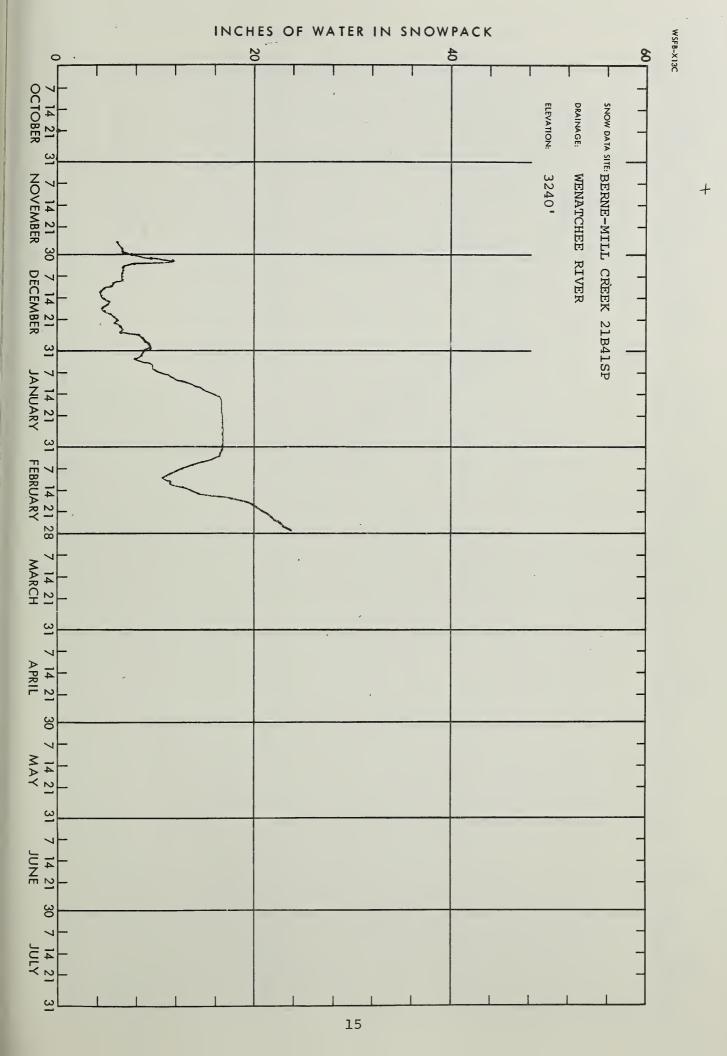


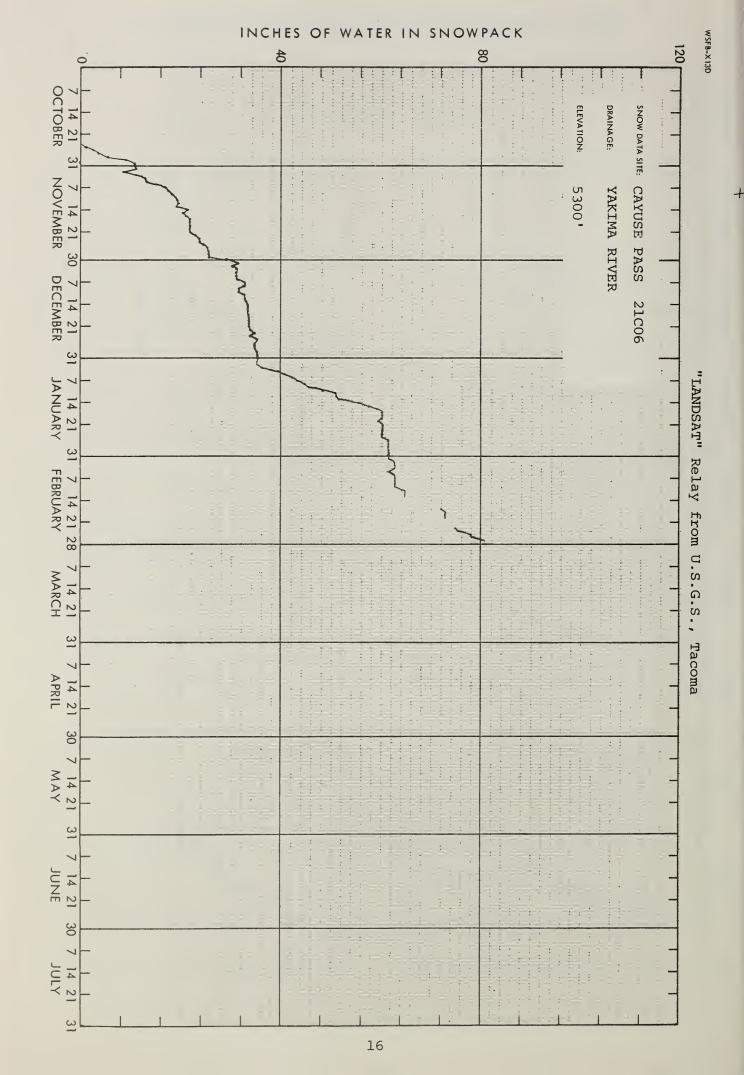


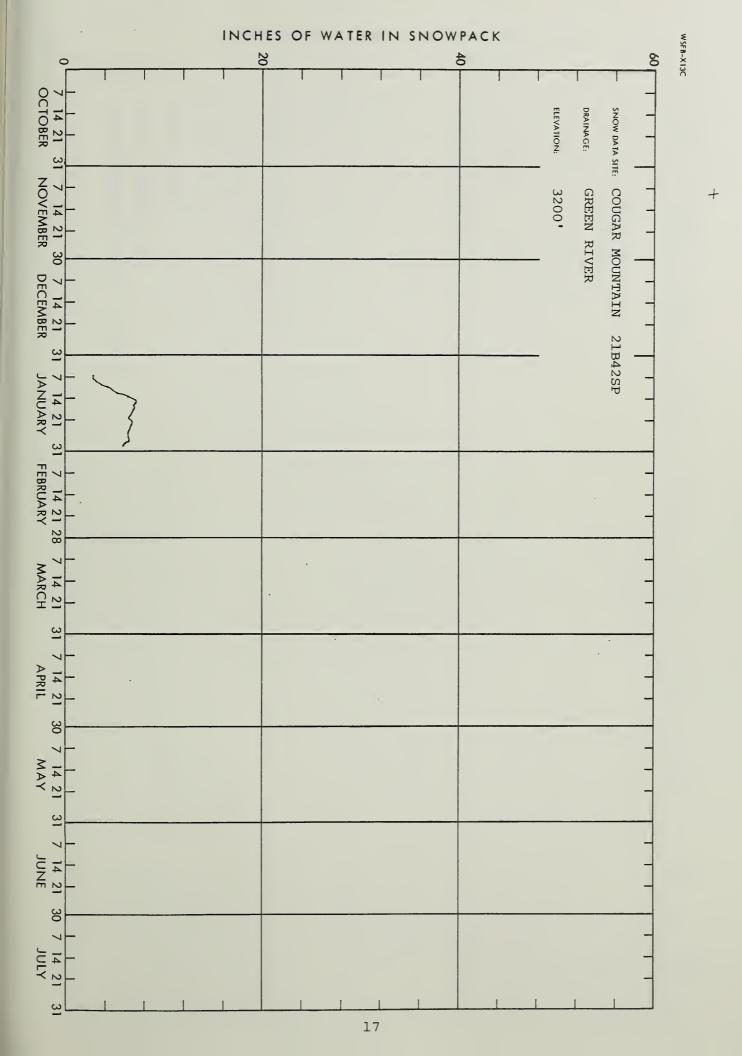


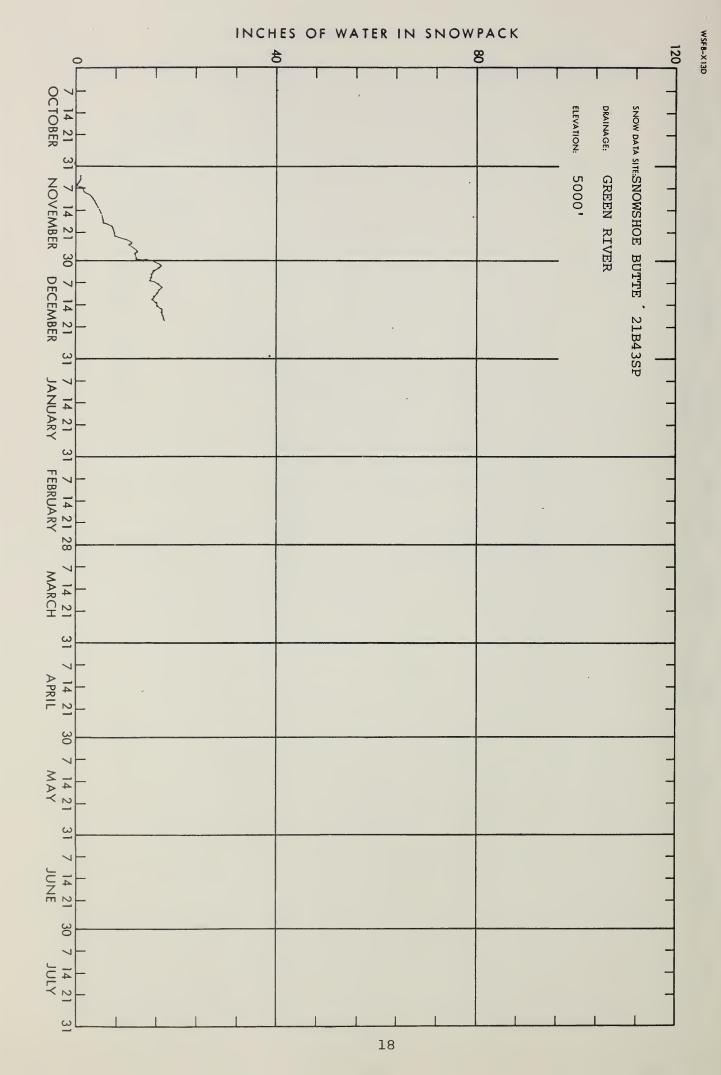




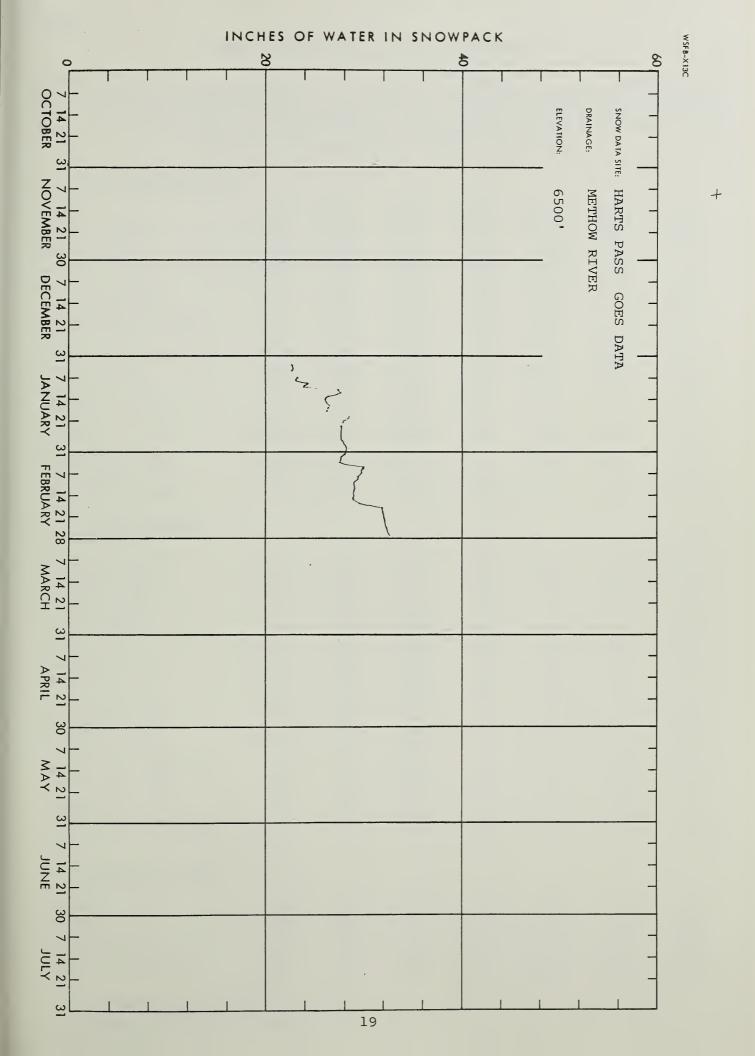


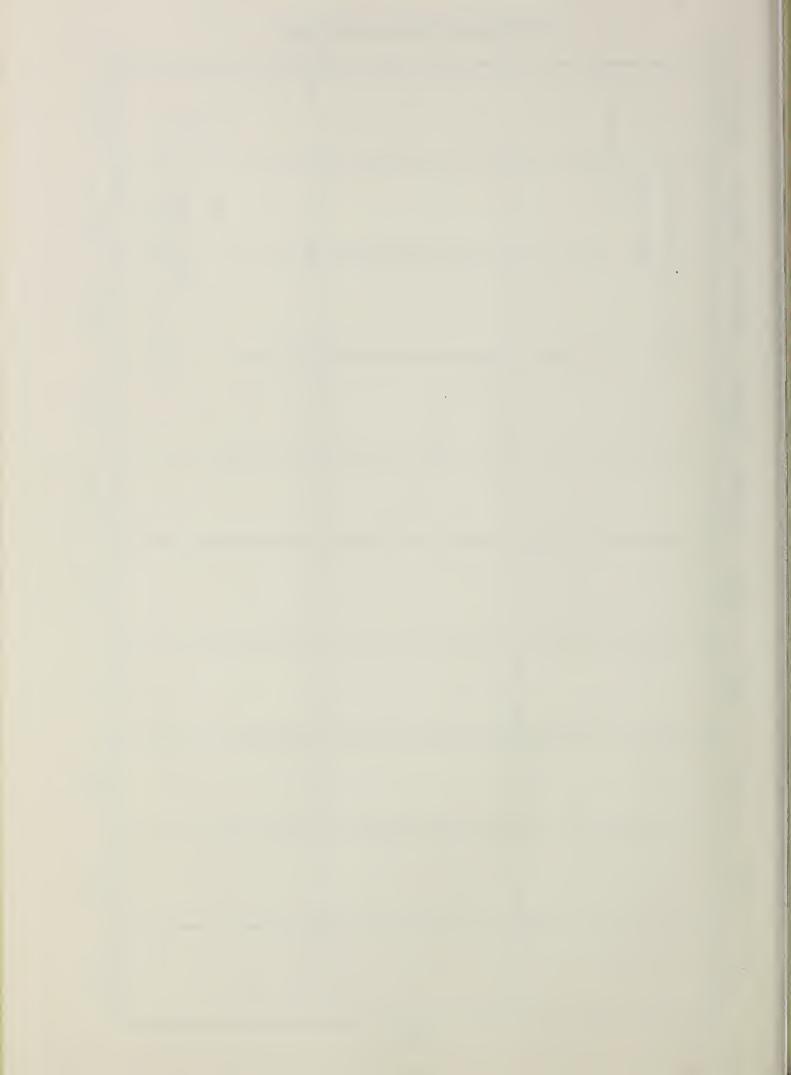






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	SNOW DATA TO	MARCH	1, 19/6 -	- APPEND	IX I		
SNOW				THIS YEAR		PAST F	RECORD
DRAINAGE BASIN a	nd/or SNOW COURSE		Date	Snow Depth	Water Content	Water Cont	ent (inches)
NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average +#
<u>u</u>	PPER CC	LUM	BIA D	RAIN	AGE		
PEND OREILLE 1	RIVER		3-				
Baree Creek	15B11	5500	3/3	142	53.3	50.3	43.6
Baree Midway	15B16	4600	3/3	118	37.3	38.5	34.6
Baree Trail	15B15	3800	3/2	42	9.4	13.3	10.5
Benton Meadow	16A02	2344	2/24	18	4.6	8.6	6.1
Benton Spring	16A03	4900	2/23	38	11.2	21.4	17.4
Boyer Mountain	17A02	5250	2/26	70	17.8	28.0	23.7
Brush Creek Timber	14A13	5000	2/26	34	8.7	10.8	10.2
Chewelah Heart Lake Trail	17A04 14C10	4923	2/28	47	11.6	18.2	16.2
Hoodoo Basin	15C10	4800	3/2 3/2	83	22.3	24.9	21.2
Hoodoo Creek	15C10	5900	3/2	152 143	48.6	46.9	46.1
Lookout	15B02	5250	2/24	102	45.5 31.2	43.5	43.2
Mosquito Ridge	16A04A	5100	3/2	107	33.8	36.0	32.7 34.7
Nelson	19-Can	3050	2/26	53	11.6	17.7	14.5*
Schweitzer Bowl	16A06	4500	3/2	7 7	20.8	45.6	27.8
Schweitzer Ridge	16A05	6100	3/2	118	40.0	60.2	39.9
Winchester Creek	17A03	2970	2/26	32	7.7	12.2	12.1
WINGING DEET CICCIA	171103	2370	2/20	32	, • ,	12.2	12.1
KETTLE RIVER							
Barnes Creek	90-Can	5300	2/28	68	18.9	20.0	18.0
Big White Mtn.	154-Can	5500	2/25	62	21.4	21.1	16.9*
Boulder Road	18A02	1450	2/26	16	4.6	7.0	4.9
Butte Creek	18A03	4070	2/26	30	7.2	10.9	9.3
Cabin Creek	18A08	3170	2/26 ·	29	6.8	5.2	8.2
Carmi	126-Can	4100	2/25	25	8.0	10.8	6.1*
Farron # 1	17-Can	4000	2/26	45	11.5	14.1	12.4*
Farron # 2	243-Can	4000	2/26	44	10.9	13.8	New
Goat Creek	18A04	3595	2/26	23	5.3	8.9	7.1
Graystoke Lake	5-Can	5950	2/27	51	15.0	17.2	18.7*
Monashee Pass	48A-Can	4500	2/28	50	13.8	14.6	12.7*
Old Glory Mtn.	42-Can	7000	2/29	93	28.7	35.4	24.6*
Snow Caps Creek	18A05	2150	2/26	19	4.4	6.0	5.1
Snow Caps Trail	18A06	2720	2/26	24	5.3	6.6	6.7
Summit G. S.	18A07	4600	2/26	24	5.7	9.6	7.4
Trapping Creek Lowe		3050	2/25	25	7.0	8.8	5.1*
Trapping Creek Uppe	er 165-Can	4450	2/25	39	11.6	13.2	8.9*
COLVILLE RIVE	<u>R</u>						
Baird	17A06	3215	2/28	28	6.1	10.2	7.1
Carlson	18A09	2885	2/29	19	4.9	9.6	4.6
Chewelah	17A04	4925	2/28	47	11.6	18.2	16.2
Stranger Mountain	17A05	4990	2/29	38	8.2	14.8	13.1
Togo	18A10	3370	2/29	42	10.9	17.6	10.9

[#] Average based on 1958-72 average

^{*} Average for years of record

SNOW				THIS YEAR		PAST RECORD		
DRAINAGE BASIN and/or	SNOW COURSE		Date	Snow Depth	Water Content	Water Cont	ent (inches)	
NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average #	
SPOKANE RIVER								
Above Burke	15B08	4100	2/24	80	22.6	25.9	_	
Copper Ridge	16B02	4800	2/26	71	25.3	28.7	25.7	
Forty-nine Meadows	15B03	5000		Late F	Report	25.8	-	
Fourth of July Summit	16B03	3100	2/27	39	11.4	14.4	7.3	
Granite Peak	15B13A	6000		Late F	Report	34.4	37.7	
Kellogg Peak	16B05A	5560		Not Me	easured	29.8	-	
Lookout	15B02	5250	2/24	102	31.2	30.4	32.7	
Lost Lake	15B14A	6000		Late F	Report	45.6	51.3	
Lower Sands Creek	16B01	3400	2/26	59	17.8	18.5	17.5	
Medicine Ridge	15B04A	6150		Late F	Report	35.8	38.5	
Mosquito Ridge	16A04A	5110	3/2	107	33.8	36.0	34.7	
Roland Summit	15B05A	5200	3/2	102	31.6	31.0	31.3	
Sherwin	16C01	3200	2/26	59	15.8	19.2	13.8	
Sunset	15B09A	5600	3/2	131	32.7	30.7	33.7	
OKANOGAN RIVER								
Aberdeen Lake	6A-Can	4300	3/1	28	6.9	9.1	5.9*	
Blackwall Mountain	100-Can	6250	3/2	118	43.4	31.3	32.4*	
Bouleau Creek	31-Can	5000	2/28	39	10.7	17.2	10.5*	
Bouleau Lake	234-Can	4580	2/28	58	13.2	17.0	13.3*	
Branda Mine	193-Can	4800	2/26	48	14.5	17.7	12.8*	
Brookmere	27-Can	3200	2/27	31	7.3	9.2	9.0*	
Carrs Landing Upper	168-Can	3200	2/29	21	5.4	7.1	4.5*	
Clark +	19A08a	7000	3/1		asured	21.8	19.7	
Enderby	130-Can	6250	2/27	115	41.0	39.0	32.4*	
Esperon Creek Lower	164-Can	4400	2/29	41	11.1	15.9	10.9*	
Esperon Creek Middle		4700	2/29	51	13.8	18.7	13.5*	
Esperon Creek Upper	162-Can	5400	2/29	56	16.5	22.8	16.5*	
Freezeout Meadows New		5000	2/25	101	34.3	37.8	25.7	
Graystoke Lake	5-Can	5950	2/27	51	15.0	17.2	18.7*	
Hamilton Hill	107-Can	4900	2/26	66	20.0	17.6	14.2*	
Harts Pass	20A05A	6500	2/23	138	49.1	46.1	38.8	
Horseshoe Basin +	19A05a	7000	3/1		asured	15.2	11.6	
Isintok Lake	152-Can	5510	2/29	32	8.5	10.8	7.5*	
Lost Horse Mountain	105-Can	6300	3/1	38	10.4	10.4	8.5*	
Loup Loup	19A07	4650	2/25	21	5.5	10.1	9.5	
McCulloch	4-Can	4200	2/27	32	7.4	9.8	6.2*	
Missezula Mountain	106-Can	5100	2/25	38	9.6	13.1	8.8*	
Mission Creek	5A-Can	6000	2/27	63	19.1	21.7	17.3*	
Monashee Pass	48A-Can	4500	2/28	50	13.8	14.6	12.7*	
Mount Kobau	156-Can	5950	3/1	36	9.2	11.2	11.8*	
Muckamuck +	19A09a	6390	3/1	50	15.0	15.6	15.1	

[#] Average based on 1958-72 average

^{*} Average for years of record

⁺ Snow water equivalent estimated from aerial stadia observation

SNOW				THIS YEAR		PAST I	RECORD
DRAINAGE BASIN and/or	SNOW COURSE	t	Date of Survey	Snow Depth	Water Content	Water Cont	ent (inches)
NAME	Number	Elevation	Or Survey	(Inches)	(Inches)	Last Year	Average
OKANOGAN RIVER (Cont.)	_					
Mutton Creek No. 1	19A01	5700	2/26	29	7.6	13.8	12.9
Mutton Creek No. 2	19A04	6000	2/26	37	9.7	12.7	13.3
Mutton Creek No. 2 SP	19AllSP	6000	2/26	_	6.6	9.5	New
New Copper Mountain	46A-Can	4300	2/27	26	4.9	6.5	5.8*
New Penticton Res. #2	183-Can	5225	3/1	33	9.1	12.0	7.6*
Nickel Plate Mtn.	47-Can	6200	3/1	33	9.4	9.1	7.1*
Oyama Lake	203-Can	4400	3/1	Not Me	asured	9.5	6.3*
Paysayten +	20A28a	4300	3/1	65	20.2	20.8	15.4
Postill Lake	55-Can	4500	2/28	30	8.2	10.8	7.4*
Quartette Lake	34-Can	4000	2/27	61	10.9	10.1	-
Rusty Creek	19A03	4000	2/25	15	3.9	8.0	7.1
Salmon Meadows	19A02	4500	2/26	25	6.1	9.7	9.9
Silver Star Mountain	99-Can	6050	2/29	89	31.5	31.8	23.8*
Starvation Mtn +	19A10a	6750	3/1	54	16.2	17.7	18.3
Summerland Reservoir	3A-Can	4200	2/28	38	10.2	14.6	8.7*
Touts Coulee	19A06	2845	2/26	16	2.9	3.0	4.0
Frout Creek	3-Can	4700	2/27	36	8.6	11.2	6.4*
Vaseux Creek	233-Can	4600	2/28	28	5.9	6.8	7.2*
White Rocks Mountain	70-Can	6000	2/25	65	22.9	31.0	18.9*
ENTIAT RIVER							
Blue Creek G. S.	20B28a	5425	3/2	120	39.5	44.4	New
Brief	20B19	1600	2/25	27	9.4	8.4	7.5
Entiat Meadows +	20A33a	4800	3/1	Not Me	asured	51.1	45.7
Entiat River Trail +	20A34a	3150	3/2	94	26.4	27.1	21.8
Four Mile Ridge +	20B27a	7000	3/2	132	43.4	34.0	-
Fox Camp +	20A36a	6510	3/2	184	60.5	54.0	54.6
Pope Ridge	20B20	4300	2/26	65	18.2	23.0	16.5
Pugh Ridge +	20A32a	6400	3/2	113	37.2	35.9	34.5
Shady Pass	20A37	6200	2/25	104	34.2	33.0	_
Snow Brushy +	20A35a	3850	3/2	127	35.7	34.7	37.7
Tommy Creek +	20B2la	5300		88	29.0	28.1	28.3
METHOW RIVER							
Billy Goat Pass +	20A10a	6409	3/1	93	28.8	29.7	25.8
Dollar Watch +	20A29a	7000	3/1	91	27.3	27.7	25.8
Harts Pass	20A05A	6500	2/23	138	49.1	46.1	38.8
Horseshoe Basin +	19A05a	7000	3/1	Not Me	asured	15.2	11.6
Loup Loup	19A07	4650	2/25	21	5.5	10.1	9.5
Mutton Creek No. 1	19A01	5700	2/26	29	7.6	13.8	12.9
Mutton Creek No. 2	19A04	6000	2/26	37	9.7	12.7	13.3
Mutton Creek No. 2 SP		6000	2/26	_	6.6	9.5	New
Rusty Creek	19A03	4000	2/25	15	3.9	8.0	7.1
Salmon Meadows	19A02	4500		25	6.1	9.7	9.9
War Creek Pass +	20A3la	6500	3/1		asured		40.5
nar orcen rass	2011514	3000	0, -				

Average based on 1958-72 average Snow water equivalent estimated from aerial stadia observation Average for years of record

USDA SCS-PORTLAND OREGON 1973.

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SNOW				THIS YEAR		PAST P	ECORD
DRAINAGE BASIN and/or \$1	NOW COURSE		Date	Snow Depth	Water Content	Water Cont	ent (inches)
NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average 1
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	3/1	146	45.3	44.8	37.4
Greenwood Flat +	20A25a	3540	3/1	Not Me	asured	28.4	22.9
Little Meadows +	20A24a	5275	3/1	151	46.8	44.4	39.9
Lyman Lake	20A23A	5900	3/1	208	64.5	-	52.5
Park Creek Flat +	20A13a	2220	3/1	Not Me	asured	***	31.4
Park Creek Ridge	20A12A	4600	3/1	178	55.2	56.0	41.9
Petersons +	20A16a	3730	3/1	135	41.8	48.3	32.9
Rainy Pass	20A09	4780	2/23	138	45.4	42.6	36.0
Safety Harbor	20A30A	6300	3/1	102	30.6	33.6	25.7
War Creek Pass +	20A3la	6500	3/1	Not Me	asured	43.6	40.5
WENATCHEE RIVER							
Berne-Mill Creek	21B23	2925	2/13	64	21.2	33.2	23.9
			2/27	94	26.8	35.5	24.7
Berne-Mill Creek New S	P 21B41SP	3240	2/27	71	21.8	30.4	21.0
Blewett Pass No. 2	20B02	4270	2/26	50	13.9	19.3	14.9
Chiwaukum G. S.	20B16	1810	2/13	35	8.7	11.6	11.2
			2/26	49	13.1	11.0	11.6
Fish Lake	21B04	3371	3/1		asured	38.4	31.3
Lake Wenatchee	20B05	1970	2/13	44	13.6	15.9	13.6
dake wellateriee	20003	1370	2/26	59	17.9	17.1	13.9
Leavenworth R. S.	20B17	1127	2/12	7.6	2.6	7.0	5.7
Leavenworth K. 5.	20017	1127	2/26	9.0	3.6	7.1	4.2
Lyman Lake	20A23A	5900	3/1	208	64.5	/ • ±	52.5
Merritt	20B18	2140	2/13	37	12.6	20.8	15.5
TELLICC	20810	2140	2/13	53	16.4	21.3	15.2
Stevens Pass	21B01	4070	2/20	110	43.3	54.6	42.5
ocevens rass	21001	4070	2/13	152	54.8	60.4	45.7
Thousand Dans Camel Chold	21745	2700	2/28	74	29.0	37.5	45.7
Stevens Pass Sand Shed	21B45	3700	2/13	112	37.0	39.8	_
SQUILCHUCK CREEK			2/20	112	37.0	39.0	
Doching Chrings	20B03	4400	2/27	11	3.1	11.6	7.9
Beehive Springs Scout-A-Vista	20B03 20B04	3400	2/27	20	5.8	11.7	8.1
SCOUT-A-VISTA	20804	3400	2/21	20	5.0	11.7	0.1
STEMILT CREEK							
Jump-Off	20B08	4450	2/25	21	5.6	11.2	8.3
Stemilt Slide	20B06	5000		44	11.4	16.4	15.1
Upper Wheeler	20B07	4400	2/27	22	5.4	13.9	10.1
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	2/25	14	3.8	15.8	-
Colockum Creek Lower	20B23	4300	2/25	21	5.0	12.5	-
Trough # 2	20B25SP	5310	2/25	23	7.0	edon	New
# Average based on 19	58-72 ave	rage					

⁺ Snow water equivalent estimated from aerial stadia observation

SNOW				THIS YEAR		PAST RECORD	
DRAINAGE BASIN and/or	SNOW COURSE	t	Date	Snow Depth	Water Content	Water Conte	ent (inches)
NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average #
YAKIMA RIVER							
A A D A CALL AND A D A CALL A D A CALL AND A							
Ahtanum R. S.	21C11	3100	2/24	14	3.4	12.8	6.7
Big Boulder Creek	21B09	3200	2/24	66	18.0	25.3	18.5
Blewett Pass No. 2	20B02	4270	2/26	50	13.9	19.3	14.9
Bumping Lake	21C08	3450	2/13	30	9.1	18.0	15.2
			2/29	71	15.9	17.9	15.3
Bumping Lake New	21C36	3400	2/13	43	13.5	22.1	19.6
			2/26	78	20.3	25.1	20.0
Cayuse Pass	21C06	5300	2/25	216	76.2	83.1	70.4
Colockum Pass	20B09	5370	2/25	43	13.6	17.1	14.5
Cooke Creek	20B10	4123	2/25	10	2.1	10.3	6.1
Corral Pass	21B13	6000	3/1	Not Me	easured	48.0	34.3
Fish Lake	21B04	3371	3/1	Not Me	easured	38.4	31.3
Green Lake	21C10	6000	2/25	110	33.3	33.0	29.1
Grouse Camp	20B11	5385	2/24	44	13.4	17.6	15.3
High Creek	20B12	2930	2/24	24	6.9	7.4	5.2
Joe Lake	21B46a	4624	3/1	225	63.0	58.6	-
Lake Cle Elum	21B14M	2200	2/13	24	9.2	13.1	8.2
•			3/1	48	13.4	13.2	8.1
Lemah Creek +	21B47a	3327	3/1	141	39.5	42.6	-
Manashtash	20C01	3935	2/26	14	3.2	8.0	4.3
Morse Lake	21C17	5400	3/4	149	47.4	71.0	47.7
Nanum	21B13	2340	2/24	31	8.8	11.5	9.6
Olallie Meadows	21B02	3625	3/2	156	67.5	52.6	40.6
Satus Pass	20D01	4030	2/27	34	7.8	14.0	8.7
Stampede Pass SP	21B10	3860	2/15		easured	55.4	34.2
			2/25	-	37.4	61.2	36.2
Trail Creek	20B14	3360	2/24	8.6	2.4	5.8	2.2
Tunnel Avenue	21B08	2450	2/12	46	16.0	28.8	20.1
			2/26	7 9	22.7	32.2	21.2
Van Epps Pass +	20B26a	5925	3/1	152	42.6	48.0	_
Walters Flat	20B15	3360	2/24	22	7.1	9.9	6.9
Waptus Lake +	21B49a	3024	3/1	141	39.5	43.6	_
White Pass (E. Side)	21C28	4500	2/17	64	17.1	24.9	20.8
			3/1	89	24.4	27.3	22.0
White Pass (L. Lake)	21C27	4500	2/25	89	22.7	32.9	26.1
AHTANUM CREEK							
Ahtanum R. S.	21C11	3100	2/24	14	3.4	12.8	6.7
Green Lake	21C10	6000	2/25	110	33.3	33.0	29.1
		,					

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[#] Average based on 1958-72 average

⁺ Snow water equivalent estimated from aerial stadia observation

SNOW					THIS YEAR		PAST R	ECORD
DI	DRAINAGE BASIN and/or SNOW COURSE			Date Snow I	Snow Depth	Water Content	Water Content (inches)	
	NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average #

LOW	ER CO	LUMB	IA D	RAIN	AGE		
ASOTIN CREEK							
Spruce Springs	17C04	5700	3/4	84	25.1	26.6	23.6
MILL CREEK							
Homestead Martin Springs Tollgate	17C01 17C02 18D3M	4030 4400 5070	2/24 2/24 2/26	25 40 86	8.3 12.1 29.8	11.6 16.2 22.9	7.4 11.9 21.1
KLICKITAT RIVER							
Satus Pass	20D01	4030	2/27	34	7.8	14.0	8.7
WHITE SALMON RIVER	<u> </u>						
Cultus Creek Surprise Lakes	21C12 21C13A	4000 4250	3/1 3/1	141 141	43.4 45.3	41.1 47.8	40.5 44.2
WIND RIVER							
Old Man Pass	21D19	3100	3/1	76	20.1	13.9	17.2
LEWIS RIVER							
Blue Lake + Bob's Trail Calamity Ridge +	21C22a 21C21 21D01a	4800 2200 2500	3/1 3/1 2/29	242 73 34	75.0 19.8 8.8	75.7 11.8 3.2	69.7 14.2 6.7
Council Pass + Cultus Creek	21C18a 21C12	4200	2/29 3/1	152 141	48.6	42.1	37.1 40.5
Divide Meadow + Grand Meadow Lone Pine Shelter	21C29a 21C25 21C26	5600 3500 3800	2/29 3/1 2/28	170 91 142	54.4 27.5 39.0	54.7 26.8 34.6	50.9 23.8 35.0
Marble Mountain + Mosquito Meadows New Muddy River	22C05a 21C19 22C06	3200 4100 2000	2/29 2/28 3/1	94 155 49	32.0 41.7 13.1	21.1 36.0 7.1	31.4 36.6 10.6
Old Man Pass Plains of Abraham + Smith Creek Road	21D19 22C01a 22C04	3100 4400 2100	3/1 2/29 2/29	76 170 58	20.1 54.4 15.3	13.9 52.8 14.3	17.2 58.5 17.2
Spencer Meadow + Surprise Lakes	21C20a 21C13A	3400 4250	2/29 3/1	96 141	28.8 45.3	17.8 47.8	21.5 44.2
Table Mountain + Timbered Peak +	21C24a 21D18a	4200 3000	2/29 2/29	158 77	50.6 22.3	50.7 10.6	41.7 16.0

[#] Average based on 1958-72 average

⁺ Snow water equivalent estimated from aerial stadia observation

SNOW			THIS YEAR		PAST RECORD		
DRAINAGE BASIN and/o	or SNOW COURSE		Date	Snow Depth	Water Content	Water Con	tent (inches)
NAME	Number	Elevation	of Survey	(Inches)	(inches)	Last Year	Average 1
COWLITZ RIVER							
Cayuse Pass	21C06	5300	2/25	216	76.2	83.1	70.4
Mosquito Meadows	21C19	4100	2/28	155	41.7	36.0	36.6
Ohanapecosh	21C32	2200	2/25	59	17.8	18.8	15.8
Packwood Lake	21C31	2870	2/23	41	41.1	14.9	12.7
Pigtail Peak	21C33	5900	2/25	188	65.2	60.7	57.2
Plains of Abraham +	22C0la	4400	2/29	170	54.4	52.8	58.5
Potato Hill	21Cl4	4500	2/25	104	28.1	32.4	28.8
White Pass (E. Side)	21C28	4500	2/17	64	17.1	24.9	20.8
			3/1	89	24.4	27.3	22.0
White Pass (L. Lake)	21C27	4500	2/25	89	22.7	32.9	26.1
Willame Creek	21C30	3250	2/25	100	29.0	28.7	26.9
NISQUALLY RIVER							
Ghost Forest	21C04	4550	2/24	132	43.8	49.8	39.0
Longmire	21C03	2760	2/24	35	9.8	15.5	9.0
New Paradise Park	21C35	5500	2/24	176	68.0	80.0	61.8
Stem Glade	21C01	5050	2/24	185	68.4	72.0	60.5
WHITE RIVER							
Cayuse Pass	21C06	5300	2/25	216	76.2	83.1	70.4
Corral Pass	21B13	6000	3/1	Not M	easured	48.5	34.3
Morse Lake	21C17	5400	3/4	149	47.4	71.0	47.7
GREEN RIVER							
Airstrip	21B24	1800	2/23	18	6.6	14.0	4.4
Charley Creek	21B25	1200	2/23	0	0.0	3.2	1.2
Cougar Mountain SP	21B42SP	3200	3/2	59	17.6	28.2	-
Grass Mtn. No. 2	21B27	2900	2/23	21	6.8	20.2	19.4
Grass Mtn. No. 3	21B28	2100	2/23	6	1.7	12.3	5.7
Lester Creek	21B29	3100	2/23	68	22.2	30.2	21.3
Lynn Lake	21B50	4000	2/23	23	7.4	26.7	-
Sawmill Ridge	21B31	4700	2/23	102	36.6	41.8	34.1
Snowshoe Butte SP	21B43SP	5000	3/2	147	46.7	67.8	-
Stampede Pass SP	21Bl0	3860	2/15	Not M	easured	55.4	34.2
			2/25	-	37.4	61.2	36.2
Twin Camp	21B30	4100	2/23	60	19.7	30.8	21.6

[#] Average based on 1958-72 average

⁺ Snow water equivalent estimated from aerial stadia observation

SNOW				THIS YEAR		PAST F	RECORD
DRAINAGE BASIN and/or	SNOW COURSE		Date	Snow Depth	Water Content	Water Cont	ent (inches)
NAME	Number	Elevation	of Survey	(Inches)	(Inches)	Last Year	Average #
CEDAR RIVER							
City Cabin	21B03	2390	3/1	65	17.9	24.1	13.5
Mt. Gardner	21B21	3300	3/1	58	16.2	23.1	15.6
Mt. Lindsay	21B16	2500	3/1	48	10.8	17.7	12.8
Mt. Washington	21B15	3000	3/3	38	9.8	14.9	-
Rex River	21B17	2400	3/1	69	17.6	22.8	8.9
S. F. Cedar	21B06	3000	3/1	64	17.0	32.6	17.3
Tinkham Creek	21B20	3400	3/1	74	20.5	34.3	20.0
SNOQUALMIE RIVER							
Alpine Meadow	21B48	3500	3/3	143	40.4	42.9	_"
Lake Elizabeth	21B19	2900	3/3	112	36.0	36.6	36.4
Olallie Meadows	21B02	3625	3/2	156	67.5	52.6	40.6
S. F. Tolt	21B18	1900	3/2	19	3.6	5.5	2.7
SKYKOMISH RIVER							
Lake Elizabeth	21B19	2900	3/3	112	36.0	36.6	36.4
Stevens Pass	21B01	4070	2/13	110	43.3	54.6	42.5
			2/26	152	54.8	60.4	45.7
Stevens Pass Sandshed	21B45	3700	2/13	74	29.0	37.5	-
	•		2/26	112	37.0	39.8	-
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	3/1	Not Me	asured	20.4	13.0
Beaver Pass	21A01	3680	3/1	Not Me	asured	30.2	28.3
Brown Top	21A28a	6000	3/1	215	78.5	59.0	-
Cloudy Pass	20A22a	6500	3/1	146	45.3	44.8	37.4
Devils Park	20A04	5900	2/23	147	53.9	47.9	39.4
Freezeout Cr. Trail	20A01	3500	3/1	51	14.2	13.7	11.8
Freezeout Meadows New	20A38	5000	2/25	101	34.3	37.8	25.7
Granite Creek	21A29	3500	2/23	78	22.0	21.0	-
Harts Pass	20A05A	6500	2/23	138	49.1	46.1	38.8
Klesilkwa	35B-Can	3700		Late F		-	13.0*
Lyman Lake +	20A23A	5900	3/1	208	64.5	-	52.5
Meadow Cabins	20A08	1900	2/23	32	11.5	10.6	6.8
New Hozomeen Lake	21A30	2800	3/1	54	15.0	15.7	-
New Tashme	26A-Can	2500	2/29	53	14.3	17.8	11.2*
Quartette Lake	34-Can	4000	2/27	61	10.9	10.1	-
Rainy Pass	20A09	4780	2/23	138	45.4	42.6	36.0
Thunder Basin	20A07	4200	2/23	68	19.9	36.2	19.8

[#] Average based on 1958-72 average

^{*} Average for years of record

⁺ Snow water equivalent estimated from aerial stadia observation

NOW				THIS YEAR	Y	PAST R	ECORD
DRAINAGE BASIN and/or SN	IOW COURSE		Date	Snow Depth	Water Content	Water Conte	ent (inches)
NAME	Number	Elevation	of Survey	(inches)	(Inches)	Last Year	Average #
BAKER RIVER			ž.				
Baker Pass +	21A27a	4900	3/1	244	93.0	76.0	-
Dock Butte	21A11A	3800	3/1	206	78.0	68.0	61.3
Easy Pass	21A07A	5200	3/1	208	79.0	68.0	72.0
Jasper Pass	21A06A	5400	3/1	278	108.0	86.0	82.8
Marten Lake	21A09A	3600	3/1	242	92.0	77.0	67.6
Mount Blum +	21A18a	5800	3/1	171	65.0	62.0	58.2
Panorama New	21A26	4300	2/15	150	48.5	61.0	-
			2/28	193	67.3	68.5	-
Rocky Creek	21A12A	2100	3/1	126	48.0	32.0	25.4
Schreibers Meadow	21A10A	3400	3/1	168	64.0	52.0	53.8
S. F. Thunder Creek	21A14A	2200	3/1	62	20.0	14.0	8.1
Watson Lakes	21A08A	4500	3/1	Not M	easured	64.0	57.6
NOOKSACK RIVER							
Bald Mountain +	21A19a	4400	3/2	164	57.4	61.2	42.9
Canyon +	21A20a	5100	3/2	233	81.6	66.8	48.3
Glacier Creek	21A23	3700	3/1	Not M	easured	25.5	21.6
Panorama New	21A26	4300	2/15	150	48.5	61.0	-
			2/28	193	67.3	68.5	-
Twin Lakes +	21A21a	5200	3/2	275	96.2	84.8	62.3
	OLYM	PIC	PENI	NSUL	<u>A</u>		
MORSE CREEK							
Cox Valley	23B14	4500	2/28	152	44.6	35.0	-
ELWHA RIVER							
Hurricane	23B03	4500	2/29	109	27.9	18.5	20.0
SKOKOMISH RIVER							
Black & White	23B0 7	4200	2/23	100	32.2	35.5	33.5
Black & White Lakes	23B06	4700					
Four Streams		3000		55	18.4		
			, -				



Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources, Water Resources Service, British Columbia

States:

Washington State Department of Ecology Washington State Department of Natural Resources

Federal:

Department of the Army Corps of Engineers

U. S. Department of Agriculture Forest Service

U. S. Department of Commerce NOAA, National Weather Service

U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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"The Conservation of Water begins with the Snow Survey"